

# **EXHIBIT 24**

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

THE STATE OF NEW YORK and THE CITY  
OF NEW YORK,

Plaintiffs,

-v-

UNITED PARCEL SERVICE, INC.,  
Defendant.

15 Civ. 1136 (KBF)  
**ECF CASE**

**DECLARATION OF FATEN SABRY**

I, FATEN SABRY, declare the following under penalty of perjury pursuant to 28 U.S.C.

§ 1746:

1. My name is Faten Sabry, and I am submitting this declaration as my direct testimony in this case.

2. I am an economist and Senior Vice President in the Securities and Mass Torts practices at NERA Economic Consulting (“NERA”). I work primarily in NERA’s New York office.

3. NERA is an international consulting firm founded in 1961 to provide clients with practical economic analysis related to highly complex business and legal issues arising from competition, regulation, public policy, strategy, finance and litigation.

**Background**

4. I received my Ph.D. in Business from Stanford Business School in 1996. I also hold a B.A. and M.A. in economics from the American University in Cairo.

5. I am a member of the American Finance Association and the American Statistics Association. I have been accredited as a professional statistician by the American Statistics Association.

6. I have extensive experience in the analysis of large databases, the design and analysis of sampling methods and have designed and used surveys in various economic consulting assignments and publications.

7. I have designed and used surveys as part of an economic study of the impact of securitization on the cost of credit and the impact of a smoking ban on businesses in a municipality and testified on the validity of a statistical analysis using survey results. In addition, I conducted a statistical analysis of shipment data to estimate the market share of defendants in tort litigation, estimated the future personal injury claims likely to be brought against defendants involved in various torts, and constructed and compiled databases tracking trading data, product identification, as well as loan-level data to evaluate the credit default behavior of consumers.

8. I have also authored several empirical studies on consumer credit, mutual funds fees, claiming behavior and tort reform. In addition, I have conducted econometric analyses to assess the impact of smoking bans on businesses in a given municipality, as well as the impact of tort reform proposals, among other economic impact studies. My research has been published in the *Journal of Structured Finance*, *Journal of Investment Compliance*, *Journal of Alternative Investments*, *Business Economics*, *International Trade Journal*, and others. A copy of my C.V. is attached as Exhibit DX-465 hereto.

### **My Assignment**

9. I was asked by counsel for defendant United Parcel Service, Inc. (“UPS”) to review and opine on the analysis contained in the expert report of Dr. Christopher Erath. Dr. Erath

submitted an expert report on June 13, 2016 (“Erath Report”), and a revised expert report on June 22, 2016 (“Erath Revised Report”). Unless otherwise noted, my opinions refer to the Erath Revised Report.

10. My opinion is based mainly on data provided by UPS, including the Erath Report and the Erath Revised Report and supporting documentation produced by Plaintiffs.

11. I am being compensated at the hourly rate of \$775. NERA is also being compensated for the time spent by its personnel in preparing this report based on its standard billing rates and its out-of-pocket expenses at cost. NERA charges between \$250 to \$600 per hour for the services of its other personnel. Neither my compensation nor the compensation of other NERA personnel is contingent upon the content of my opinion or the outcome of this matter.

#### **The Erath Revised Report**

12. Dr. Erath stated that he was asked by Plaintiffs to estimate the percentage of packages sent from the Native American retailer EExpress or certain alleged aliases or “DBAs” (Elliot Enterprises, Bear Claw, Native Express, Native Tobacco, Seneca Promotions, Elliot Industries, Rock Bottom Tobacco and deerpathcigs) via UPS to addresses within New York State that contained cigarettes from September 21, 2012 to June 25, 2014 (“Relevant Period”). (Erath Revised Report, p. 1.)

13. Dr. Erath stated that he drew a sample of 500 packages from a list provided to him by Plaintiffs of 11,195 EExpress packages allegedly delivered by UPS during the Relevant Period. (*Id.*)

14. The 500 packages are associated with 328 unique addresses, and Dr. Erath stated that a team of personnel employed by the New York State Attorney General’s Office (“NYSAG interviewers”) contacted some of the people who lived at these addresses and asked them survey

questions. (Erath Revised Report, pp. 1-2.) Dr. Erath stated that due to “time constraints,” the NYSAG interviewers attempted to contact only 235 of the 328 addresses in his sample. (Erath Revised Report, p. 2.)

15. Dr. Erath stated that he designed a script to be used by NYSAG interviewers when recipients were contacted and then analyzed the results of the survey conducted based on his script. (Erath Revised Report, p. 1.)

16. Dr. Erath provided a summary of survey responses in two Excel files where it appears that the answers to the questions in the survey were entered, but verbatim responses were not provided by Dr. Erath. These files appear to include responses to the survey questions asked by the NYSAG interviewers based on the survey script. A copy of this document, on which I relied in forming my expert opinion, is attached hereto as Exhibit DX-495.

17. The NYSAG interviewers successfully contacted only 52 of the 235 addresses that they attempted to reach. This means that Dr. Erath’s response rate was 52 out of 328, or 15.9%. (Erath Revised Report, p. 3.)

18. Dr. Erath stated that 20 respondents, or almost 40% of the 52 persons contacted, denied receiving any packages with tobacco products or packages from EExpress, and he excluded their responses from his analysis. (Erath Revised Report, p. 3.) Thus, Dr. Erath included only 9.8% (32 out of 328) of the survey sample in his analysis.

19. According to the Erath Revised Report, Dr. Erath classified the 32 responses he considered, which corresponded to 57 shipments, into three groups. (Erath Revised Report, p. 3.)

20. The first group (“Group 1”) consists of 19 respondents and 32 packages, where the respondents (i) identified where they purchased tobacco products from and (ii) stated that they had purchased only one type of tobacco product from that seller. Of these 19 respondents, 17

respondents stated that they had purchased only cigarettes, and two respondents stated that they had purchased cigars.

21. The second group (“Group 2”) consists of 6 respondents and 9 packages, where the respondents stated that they had ordered cigarettes, but where the NYSAG interviewers did not ask whether cigarettes were the *only* tobacco product ordered.

22. The third group (“Group 3”) consists of 7 respondents and 16 packages where Dr. Erath stated that the NYSAG interviewers did not follow the survey protocol.

23. Based on the survey results that Dr. Erath used, which reflect 9.8% of the survey sample of addresses (32 responses from the 328 addresses sampled), and include the responses in Groups 2 and 3 where follow up questions were not asked or protocol otherwise not followed, Dr. Erath concluded that “nearly all of these shipments did contain cigarettes.” (Erath Revised Report, p. 1.) In particular, Dr. Erath concluded that up to 95% of packages included cigarettes, with a 95% confidence interval of 89 to 100%. (Erath Revised Report, p. 3.)

24. In my opinion, these estimates based on Dr. Erath’s data are incorrect and unreliable given numerous errors in his analysis. In addition, the set of responses from which his estimates are drawn is not representative of the population of EExpress shipments and, thus, cannot be extrapolated to shipments beyond those in Dr. Erath’s 32 responses.

**Dr. Erath Improperly Excluded 20 Respondents.**

25. Dr. Erath discarded 20 respondents from his analysis because they “denied receiving any packages from EExpress or its DBAs or having tobacco products shipped to them.” (Erath Revised Report, p. 3.) This exclusion is improper.

26. Most of these 20 respondents told Dr. Erath that they had not received packages from EExpress or its alleged DBAs or had not received packages of tobacco products. Rather

than simply excluding these respondents from his analysis, Dr. Erath should have reported them as respondents who did not receive cigarettes from EExpress or its DBAs.

27. If Dr. Erath had properly included these 20 respondents, and if I assume *arguendo* that 30 of the other 32 respondents received shipments that contained cigarettes, then the correctly stated ratio of respondents who received cigarettes from EExpress or its DBAs would be 30 out of 52, or 58%— far from the 94% Dr. Erath concluded.

28. Dr. Erath's stated basis for excluding 20 respondents was that they had no recollection of "what was in the box" that they had received, either because they did not recall receiving a box or denied receiving a box. (Erath Tr. 63:8-13.) Given that these respondents did not state that they received packages of tobacco products from any of the purported EExpress companies, they should have been counted as not having received tobacco packages from EExpress or its DBAs, not excluded.

**Dr. Erath Overstated the Share of 32 Respondents Who He Counted as Ordering Cigarettes from EExpress.**

29. Dr. Erath stated that he relied on 32 respondents who received 57 packages (although, in fact, Dr. Erath made a mistake in the report and reported 56 packages instead of 57). (Erath Revised Report, p. 3.)

30. Dr. Erath's Report noted a Relevant Period, but his questions about purchases did not specify this date range. Additionally, Dr. Erath noted that addresses received 1-7 shipments. (Erath Revised Report, p. 1.) This means that some of the respondents received more than one shipment.

31. Dr. Erath concluded that "[a]t the shipment level 95% contained cigarettes (54 of 56) with a 95% confidence interval from 89% to 100%." (Erath Report, p. 3.) Assuming that respondents stated that they received cigarette packages from EExpress, (and in fact many did not

recall, did not know and did not specify EExpress) Dr. Erath had little or no information to assess whether *all* the shipments to these respondents contained cigarettes, because he did not ask respondents about the contents of each individual package. Yet, Dr. Erath assumed that the each package contained cigarettes.

32. Dr. Erath's key question was Question 3, "Have you ever ordered anything from one of the following companies? EExpress Elliot Enterprises, Bear Claw, Native Express, Native Tobacco, Seneca Promotions, Elliot Industries, Rock Bottom Tobacco, deerpathcigs."

33. The question implies that if survey respondents had *ever* ordered *anything* from one of the companies, even if it had happened only once, the correct answer was "yes."

34. The question does not specify (i) that the shipment needed to have been delivered by UPS, or (ii) that the shipment occurred during the Relevant Period, nor does it give any indication that respondents should indicate the number of shipments that they had received from the companies if they had received more than one shipment.

35. If respondents said "yes" to Question 3, as 24 respondents did, Dr. Erath then asked what they had ordered. Twenty-one of 24 respondents said that they had ordered cigarettes from EExpress, two said that they had ordered cigarettes from "Trading Post," which was not one of the listed companies in the survey, and one said that he or she had ordered little cigars. Although there is no information about how many EExpress shipments contained cigarettes, Dr. Erath assumed that 100% of the shipments contained cigarettes.

36. There were 8 other respondents, who stated that they had received tobacco products but did not know or were not certain of the source. These were respondents who had said "no," "maybe," "don't remember," or "don't know" to whether they ever ordered anything from EExpress. After being asked if they had ever received shipments of tobacco products (from



any source), one respondent said he or she had ordered Seneca cigars and the remaining 7 had ordered cigarettes.

37. *None* of the 32 respondents stated that they received shipments during the Relevant Period or that the shipment about which they answered survey questions arrived via UPS, nor did they specify the number of shipments that included cigarettes. But Dr. Erath assumed that the fact that respondents had stated that they had *ever* received cigarettes meant that the packages associated with those respondents in the NYSAG list also contained cigarettes. Dr. Erath has no basis for this assumption.

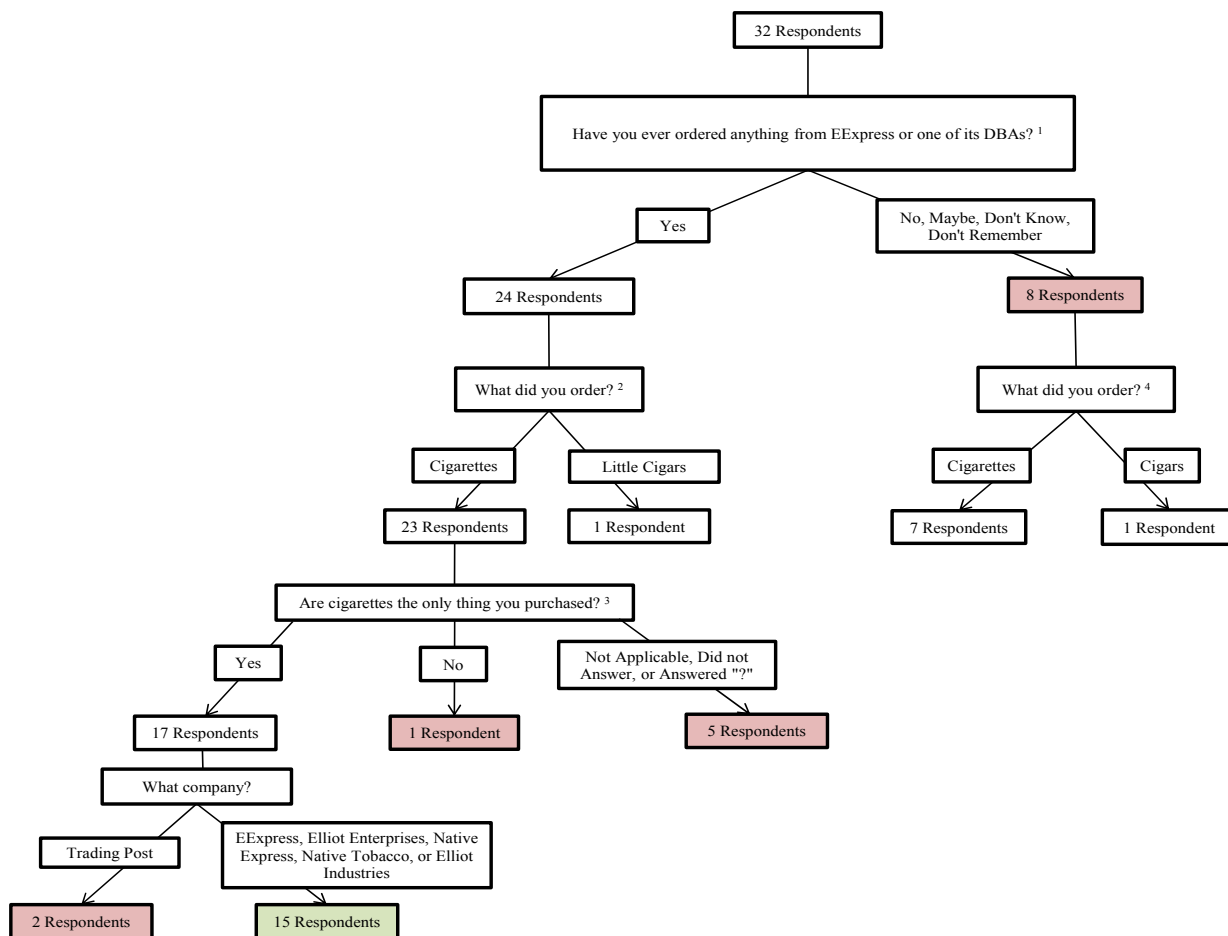
38. Furthermore, without supporting data, Dr. Erath assumed that every respondent who said that they received *any* cigarette shipments received *only* cigarette shipments. There is no basis for this assumption.

39. The 24 respondents who said that they had ordered from EExpress or one of its alleged DBAs were then asked if cigarettes were the only product that they had ordered. Seventeen respondents said “yes” to this question, one said “no,” five did not provide any answer, and one respondent was not asked the question because he or she had ordered only little cigars and not cigarettes. The one respondent who said “no”, that cigarettes were not the only product they had ordered, was then asked what percentage of the orders placed contained cigarettes, but the respondent did not remember.

40. Of the 17 respondents who answered “yes”, two respondents had ordered cigarettes from Trading Post, which was not one of the listed EExpress entities, leaving only 15 who had ordered cigarettes from EExpress or one of its alleged DBAs and who said they had ordered no other products.

41. Therefore, as reflected below in Table 1, only 15 of the 32 respondents whom Dr. Erath included in his analysis, or 47%, stated that they had purchased cigarettes and no other products from EExpress (and again with no specification as to when or from what carrier).

**Table 1. Dr. Erath's Classification of the Set of 32 Responses**



**Notes and Sources:**

- Data are from NYS-115948 and NYS-115952.

<sup>1</sup> Question 3 in Erath's survey is the following: Have you ever ordered anything from one of the following companies? EExpress Elliot Enterprises, Bear Claw, Native Express, Native Tobacco, Seneca Promotions, Elliot Industries, Rock Bottom Tobacco, deerpathcigs

<sup>2</sup> Question 3(a) in Erath's survey is the following: If yes, what did you order from [COMPANY]?

<sup>3</sup> Question 3(a)(i)(1) in Erath's survey is the following: Are cigarettes the only thing you purchased from [COMPANY]?

<sup>4</sup> Based on the following questions:

3(a) If yes, what did you order from [COMPANY]?

3(b) If no, have you ever received shipments of tobacco products?

3(b)(i) If yes, what kind of tobacco products did you order (cigars, cigarettes, or some other tobacco product)?

42. This means that Dr. Erath overstated in several ways the share of the 32 respondents included in his analysis who ordered cigarettes and no other tobacco products from EExpress.

43. If I correct for Dr. Erath's misclassifications – and assume *arguendo* that the survey data is reliable – the percentage of respondents who stated that they had purchased cigarettes and no other tobacco products from EExpress is only 15 of 52, or 29%, with the 95% confidence interval ranging from 16% to 41%.

44. Dr. Erath also overstated the number of respondents who “ever” ordered cigarettes from EExpress or a DBA. As noted above, eight respondents included in his results had said “no,” “maybe,” “don’t remember,” or “don’t know” to whether they ever ordered anything from EExpress. Despite denying or not recalling receiving anything from EExpress, Dr. Erath included most of them as respondents who received cigarettes from EExpress. (Erath Tr. 143:3-147:14.)

45. For example, one respondent said that she “maybe” had ordered something from EExpress, and Dr. Erath confirmed that she was then treated as if she had said “yes” and was “asked what was ordered.” (Erath Tr. 135:7-14.) Dr. Erath justified treating respondents who were equivocal (“Maybe,” “Don’t Remember”) about whether they received packages from EExpress as having received packages because “[w]e know that they got a package from UPS from EExpress,” although he conceded that he did not “know for a fact” that respondents were answering questions about that particular package. (Erath Tr. 134:13-22.)

46. Respondents who answered “Don’t Know” to the question of whether they ever ordered from EExpress were initially treated as having said they did not order a package from EExpress. Instead of being excluded or calculated as not receiving cigarettes from EExpress, Dr. Erath asked them a series of questions about whether they ever received “tobacco products” from any shipper, or ever received a package from a reservation and, if so, whether it contained “tobacco products” and then treated these respondents as if they stated that they ordered from

EExpress. (Erath Tr. 139:13-19). These respondents ultimately were included in the survey results as having received cigarettes. (Erath Tr. 146:3-147:14.)

47. In two instances Dr. Erath included respondents who said that they ordered products from “Trading Post,” which Dr. Erath acknowledged was not an EExpress DBA. (Erath Tr. 141:21-144:15.) Dr. Erath included these respondents in his results, even though he acknowledged that the NYSAG interviewers should not have read “Trading Post” as a DBA (Erath Tr. 144:4-15), again because “we know a package was delivered by UPS from EExpress to this address.” (Erath Tr. 142:12-14.)

48. In other words, Dr. Erath counted these respondents as having received a shipment from EExpress anyway, even though his survey never asked about specific shipments, specific carriers or even shipments in the Relevant Period, so long as they stated that they received any tobacco products. By contrast, if the respondents did not state that they received tobacco or packages from EExpress, he excluded them from his analysis altogether.

#### **Failure to Assess Potential Biases Resulting from the Low Response Rate and Small Sample**

49. Dr. Erath received 52 responses from people living at 328 addresses, or a 15.9% response rate. However, Dr. Erath improperly excluded 20 responses and relied on only a set of 32 responses to calculate the rate of cigarette incidence, which is 9.8% of the random sample. In addition, Dr. Erath noted that only 19 responses were compiled from interviews without a breach of protocol or a failure to ask a relevant follow-up question (Erath Revised Report, p. 3), meaning that only 5.8% (or 19 out of 328) of the sample is reported with no errors in the data according to Dr. Erath.

50. Thus, Dr. Erath’s response rate is very low. A low response rate is an important source of bias if the respondents and non-respondents are different in ways that affect their

answers to survey questions and can distort the results. Non-respondents can differ critically from respondents and the extent of that difference is unknown unless you are able to obtain information about the non-respondents, which Dr. Erath did not do. (Lohr, S. L. (2010). *Sampling: Design and Analysis* (2nd Ed.) pp. 6, 329, 356, Boston, MA: Brooks / Cole Cengage Learning.) A copy of excerpts of this book, on which I relied in forming my expert opinion, are attached hereto as Exhibit DX-497.

51. When a survey suffers from a low response rate, the survey analyst should attempt to determine whether the respondents were similar in important ways to non-respondents. In other words, the survey analyst should determine what effect, if any, the response rate has had on the results. (Diamond, Shari Seidman. (2011). *Reference Guide on Survey Research*, p 383, pp. 359-423 in Federal Judicial Center, *Reference Manual on Scientific Evidence*, 3<sup>rd</sup> ed.) A copy of this article, on which I relied in forming my expert opinion, is attached hereto as Exhibit DX-457. Dr. Erath did not do this analysis.

52. For example, if people who have not moved since 2012 were easier for the NYSAG interviewers to find, then their response rate may be higher than people who have moved. And if the non-movers are more likely to be cigarette customers for EExpress than the movers, we would expect that an analysis based just on this small group of non-movers would overstate the true percentage of cigarette receipts. (Exhibit DX-497, Lohr, p. 331.)

53. Dr. Erath failed to address his low response rate and failed to demonstrate that the responses he received were representative of the population of EExpress package recipients from UPS. Dr. Erath presented no analysis of the potential bias of the low response rate on his estimate of cigarette receipt from EExpress, or the potential bias associated with the small set of responses that he analyzed. These biases undercut the reliability of his estimates.

**Dr. Erath's Survey Suffers from Selection Bias Due to His Failure to Contact One-Third of the Sample**

54. Selection bias in sampling “occurs when some part of the target population is not in the sampled population.” (Exhibit DX-497 Lohr, p. 5) Bias arises when there is no basis for assuming that a quantity estimated from the sample would “on average” be correct for the population.

55. Bias can result in systematic error in an estimate, which is distinct from the random error that is inevitable in statistical sampling because results for the sample population deviate from those in the full population through the “luck of the draw.” When selection bias is present, a portion of the population of interest is underrepresented or not represented at all in the sample. (Exhibit DX-497, Lohr, pp. 4-5.)

56. Dr. Erath selected 500 packages associated with 328 addresses for his survey. However, owing to unspecified “time constraints,” the Erath Revised Report states that attempts were made to reach only 235 of the 328 addresses in his random sample. (Erath Revised Report, p. 2.) This means that *no* attempts were made to survey 93 out of the 328, or 28%, of addresses originally identified.

57. The Erath Revised Report also does not indicate how the 235 addresses that the NYSAG interviewers attempted to contact were selected, or whether these addresses vary in any systematic way from the 93 addresses that were not selected for attempted contact. In fact, Dr. Erath said that he conducted no analysis to determine whether the 235 respondents who were contacted were still representative of the 328 addressees in his original random sample, in part, because he did not think there would be any effect on the representativeness of his sample. (Erath Tr. 43:3-19.) This failure is important because the set of people living at the 235 addresses where

Dr. Erath attempted to make contact could have had different purchasing behavior from the set of people living at the 93 addresses that he did not attempt to contact.

58. By not attempting to contact almost one-third of the sample, Dr. Erath introduced a potential source of bias into his analysis which could result in unreliable estimates.

**The 32 Respondents on Which Dr. Erath Relied Are Not Representative**

59. In order for the results of a sample to be applied to the population, it is important for the sample to be representative of the population. (Exhibit DX-497, Lohr, p. 3.)

60. Academics have noted that survey responses cannot be used correctly to infer information about the population if a significant fraction of the sample did not respond or parts of the population in the survey were not represented in the survey. (*Id.* at 356.)

61. Dr. Erath's 32 respondents are not representative, and cannot be used correctly to infer information about EExpress shipments.

62. Dr. Erath relied on 32 respondents out of his sample of 328 addresses to estimate the incidence of cigarette receipt. The original sample of 328 addresses was reduced by two steps. First, contacts were only attempted at 235 out of 328 addresses, and there is no indication that the 235 are a random sample of the 328 addresses. Second, only 52 addresses were successfully contacted out of the 235. There is no reason to believe that the 52 were a random sample of the 235 or of the 328. Furthermore, Dr. Erath improperly excluded from his analysis 20 of the 52 respondents who said that they did not order from EExpress or its alleged DBAs or did not receive tobacco shipments. Thus, Dr. Erath relied on a subset of 32 responses for his analysis.

63. When response rates are low, it is incumbent upon the researcher to show that there is good reason to believe that non-respondents are not different than respondents. (Exhibit DX-497, Lohr, at 2.) Dr. Erath did not make that showing.

64. To test the representativeness of Dr. Erath's small subset of responses, I used standard statistical tests to determine whether the weight and geographic distribution of the packages received by the 32 respondents are similar to the population of all EExpress shipments delivered by UPS to New York State during the Relevant Period.

65. My analysis shows that Dr. Erath's sample of 32 responses is *not* representative in terms of the weight of the packages or the geographic location of the addresses.

66. I determined that the average weight per package for the 32 respondents that Dr. Erath relied on for his analysis is statistically significantly different from the weight in the population. In particular, the average weight per package in Dr. Erath's sample among the 32 respondents is 6.2 pounds, while it is 4.7 pounds for the remaining packages in the EExpress population.

67. In addition, the set of 32 responses used by Dr. Erath does not include responses from 24 of 36 of the New York State counties that received package deliveries in the EExpress population. This means that two-thirds of the counties in New York that received EExpress packages during the Relevant Period are not represented in Dr. Erath's sample.

**Dr. Erath Used an Incorrect Formula to Calculate Confidence Intervals.**

68. It is standard for economists, statisticians and other data analysts to compute and report the margin of errors in their estimates. The level of precision associated with an estimate is commonly depicted with a confidence interval.

69. A 95% confidence interval specifies a range between a lower limit and an upper limit that should contain the true value of the estimate with a 95% probability. For example, if we



draw a sample of 400 voters and 50% of them indicated that they will vote for candidate X, and the margin of error is plus or minus 5 percentage points, then there is a 95% likelihood that the true percentage of voters who will vote for candidate X is between 45 and 55%. The wider the range of the confidence interval, the greater the uncertainty and the less precise the point estimate. (Exhibit DX-497, Lohr, pp. 40-41.)

70. Dr. Erath calculated his confidence intervals using the Bernoulli interval formula. (Erath Revised Report, p. 3.) The Bernoulli interval is calculated as the sample proportion,  $p$ , plus or minus 1.96 multiplied by the square root of  $(p(1-p)/n)$ .

71. The Bernoulli formula is not appropriate for small sample sizes, such as the sample size here, or when the estimated percentage is close to zero or one. Dr. Erath's estimates range from 89.5% to 93.8%, which are close to 1, and the sample size for each of his groups is considered too small to apply a normal distribution.

72. To illustrate, Dr. Erath stated that 17 of 19 respondents in Group 1 ordered only cigarettes. This is 89.5% of respondents, and the standard error, according to Dr. Erath's formula (the square root of  $.895 \cdot .105 / 19$ ) is 7.0%. Multiplying this standard error by plus or minus 1.96 provides an estimated 95% margin of error of plus or minus 13.8%. By Dr. Erath's account, the confidence interval would be 89.5% plus or minus 13.8, or 76% to 103%, which is not possible, because the confidence interval should be bounded by 0% and 100%. Dr. Erath simply truncated the upper bound of the confidence interval at 100%, which is also not statistically appropriate.

73. Given the small sample size here, as Dr. Erath now agrees, he should have used the Wilson score method, which is a standard statistical technique used to calculate confidence intervals. (See Alan Agresti and Brent A. Coull, "Approximate is Better than 'Exact' for Interval Estimation of Binomial Proportions," *The American Statistician*, Vol. 52, No. 2 (May, 1998), pp.

119-126; E.B. Wilson, “Probable Inference, the Law of Succession, and Statistical Inference,” *Journal of the American Statistical Association*, 22: 209-212 (1927).) Copies of these articles, on which I relied in forming my expert opinion, are attached hereto as Exhibits DX-441 and DX-525.

74. I used the Wilson score method to calculate Dr. Erath’s confidence intervals correctly. Based on the formula Dr. Erath relied on, the confidence interval for Group 1 is 75.7% to 103.3%. I calculated the proper confidence interval to be 68.6% to 97.1% for Group 1. For Group 2, the confidence interval calculated using Dr. Erath’s formula is 81.4% to 102.6%, but the proper confidence interval when the Wilson score method is used is 75% to 97.8%. Finally, for Group 3, Dr. Erath’s formula yields a confidence interval of 85.4% to 102.1%, but the correct confidence interval is really 79.9% to 98.3%.

75. The size of the sample is key to the reliability of the results. “The smaller the sample, the wider the confidence interval. As the sample becomes larger, we are increasingly certain that the truth is not far from the point estimate we have observed from our experiment.” (Shannon, H., & Walter, S. (1995) 2, *Interpreting Study Results: Confidence Intervals*, Can Med Association Journal, 152(2), 169.) A copy of this article, on which I relied in forming my expert opinion, is attached hereto as Exhibit DX-001. Conversely, as here, the smaller the sample size, the less certain we are about the estimate.

76. In his trial declaration, Dr. Erath acknowledged that the Wilson score method is “more exact,” although he did not correct his confidence intervals in his declaration and, instead, relied on the erroneous confidence intervals that he used in his report. (Erath Trial Decl. ¶ 26 n.2)

77. Dr. Erath’s analysis and estimates are unreliable given various errors in his analysis of the data and his use of incorrect confidence intervals. In addition, Dr. Erath relied on 32 responses that are not representative of the population in terms of weight of packages or

geographic distributions and therefore he cannot extrapolate his estimates to all EExpress shipments to New York State during the Relevant Period.

I declare under penalty of perjury, pursuant to 28 U.S.C. § 1746, that the foregoing is true and correct.

August 25, 2016  
New York, New York

A handwritten signature in black ink, reading "Faten Sabry". The signature is written in a cursive, flowing style. The first name "Faten" is written in a larger, more prominent script, and the last name "Sabry" follows it in a similar but slightly more compact script. The signature is positioned above a horizontal line.

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Faten Sabry, Ph.D.